IN THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-20 (Cancelled).

Claim 21 (New): An apparatus for coding a moving image, comprising:

a coding unit configured to generate a code of each frame of the moving image by compression coding with quantization;

a first verification unit configured to calculate a first occupancy of a first buffer as an input buffer of a virtual decoding apparatus, if the code were to be supplied to the first buffer by a first bit rate, the first occupancy being a prediction value of code quantity to be stored in the first buffer;

a second verification unit configured to calculate a second occupancy of a second buffer and a change rate of the second occupancy, if the code were to be supplied to the second buffer as the input buffer of the virtual decoding apparatus by a second bit rate lower than the first bit rate, the second occupancy being a prediction value of code quantity to be stored in the second buffer;

a skip control unit configured to control the coding unit to skip coding of all or a part of one frame, if the first occupancy of the first buffer is likely to underflow;

a code quantity calculation unit configured to calculate a code quantity to be assigned to one or a plurality of frames based on the second occupancy and the change rate;

a determination unit configured to determine an upper limit and a lower limit of a quantization scale as a parameter of coding level based on the first occupancy, the second occupancy and the change rate; and

a change control unit configured to change the quantization scale of the coding unit within a range between the upper limit and the lower limit based on the code quantity;

wherein the determination unit includes,

means for correcting the upper limit upwards if the first occupancy is below a first threshold;

means for calculating an evaluation value based on the second occupancy and the change rate, the evaluation value being larger if the second occupancy is larger or if an increase rate of the second occupancy is higher;

means for correcting the upper limit, if the evaluation value is below a second threshold, so that the upper limit becomes high in proportion to a difference between the evaluation value and the second threshold, the second threshold being set for detecting the second occupancy under a status of underflow or a sudden decrease in the second buffer; and

means for correcting the lower limit, if the evaluation value is above a third threshold higher than the second threshold, so that the lower limit becomes low in proportion to a difference between the evaluation value and the third threshold, the third threshold being set for detecting the second occupancy under a status of overflow or a sudden increase in the second buffer.

Claim 22 (New): The apparatus according to claim 21,

wherein the change control unit changes the quantization scale so that the second occupancy is above a lower limit of the second occupancy.

Claim 23 (New): The apparatus according to claim 22,

wherein the change control unit changes the lower limit of the second occupancy.

Claim 24 (New): The apparatus according to claim 21,

wherein the first bit rate is the highest value of input bit rate to the input buffer of the virtual decoding apparatus.

Claim 25 (New): The apparatus according to claim 21,

wherein the second bit rate is a target value of an average bit rate of the code generated from the coding unit.

Claim 26 (New): A method for coding a moving image, comprising:

generating a code of each frame of the moving image by compression coding with quantization;

calculating a first occupancy of a first buffer as an input buffer of a virtual decoding apparatus if the code were to be supplied to the first buffer by a first bit rate, the first occupancy being a prediction value of code quantity to be stored in the first buffer;

calculating a second occupancy of a second buffer and a change rate of the second occupancy if the code were to be supplied to the second buffer as the input buffer of the virtual decoding apparatus by a second bit rate lower than the first bit rate, the second occupancy being a prediction value of code quantity to be stored in the second buffer;

controlling the generating step to skip coding of all or a part of one frame if the first occupancy of the first buffer is likely to underflow;

calculating a code quantity to be assigned to one or a plurality of frames based on the second occupancy and the change rate;

determining an upper limit and a lower limit of a quantization scale as a parameter of coding level based on the first occupancy, the second occupancy and the change rate; and

changing the quantization scale of the coding step within a range between the upper limit and the lower limit based on the code quantity;

wherein the determining step includes,

correcting the upper limit upwards if the first occupancy is below a first threshold;

calculating an evaluation value based on the second occupancy and the change rate, the evaluation value being larger if the second occupancy is larger or if an increase rate of the second occupancy is higher;

correcting the upper limit, if the evaluation value is below a second threshold, so that the upper limit becomes high in proportion to a difference between the evaluation value and the second threshold, the second threshold being set for detecting the second occupancy under a status of underflow or a sudden decrease in the second buffer; and

correcting the lower limit, if the evaluation value is above a third threshold higher than the second threshold, so that the lower limit becomes low in proportion to a difference between the evaluation value and the third threshold, the third threshold being set for detecting the second occupancy under a status of overflow or a sudden increase in the second buffer.

Claim 27 (New): The method according to claim 26,

wherein the changing step includes:

changing the quantization scale so that the second occupancy is above a lower limit of the second occupancy.

Claim 28 (New): The method according to claim 27,

wherein the changing step further includes:

changing the lower limit of the second occupancy.

Claim 29 (New): The method according to claim 26,

wherein the first bit rate is the highest value of input bit rate to the input buffer of the virtual decoding apparatus.

Claim 30 (New): The method according to claim 26,

wherein the second bit rate is a target value of an average bit rate of the code generated at the generating step.